

Remarks**Status of the Claims**

Claims 1-6, 8-10, 13-20, and 22-31 are pending in the application. All claims stand rejected. By this paper, claims 1, 6, 10, 22, 23, and 31 have been amended. New claims 32-33 have been included to provide claim coverage commensurate with the scope of the invention. No new matter has been added. Reconsideration of all pending claims herein is respectfully requested.

§ 102 Rejections

Claim 30 was rejected under 35 U.S.C. § 102(e) as being allegedly anticipated by Gaughan et al. ("Gaughan"). This rejection is respectfully traversed.

Claim 30 recites a remote control with four different specialized buttons:

1. a first button for initiating the display of a full-screen browser image in a user interface for the interactive television system;
2. a second button for initiating the display of a reduced-size television image over a portion of a full-screen browser image in the user-interface;
3. a third button for initiating the display of a reduced-size browser image over a portion of a full-screen television image in the user interface; and
4. a fourth button for initiating the display of a full-screen television image in the user interface.

These four separate buttons allow a user to immediately select one of four picture-in-picture (PIP) modes without having to cycle through available options,

navigate menus, etc. Accordingly, the amount of time required to select a desired mode is reduced over conventional approaches.

Gaughan does not disclose or suggest four different specialized buttons on his remote control for accessing the four claimed PIP modes. While it is true that Gaughan generally discloses a PIP feature, a closer look at the reference reveals that Gaughan is totally silent about specific buttons being used for specific purposes.

With respect to the claimed "first button for initiating the display of a full-screen browser image in a user interface for the interactive television system," the Examiner cites to column 3, lines 54-63 and column 4, lines 44-50 of Gaughan, which are reproduced below *in toto* for the Examiner's convenience.

A web television 10 is illustrated in FIG. 1 and includes a display 12 (such as a CRT) housed in a cabinet 14. The cabinet 14 also houses various switches 16 as well as an infrared sensor 18 that responds to an infrared remote control device 20. Alternatively, the remote control device 20 may be hardwired to the web television 10, or the remote control device 20 may transmit wireless signals of a kind other than infrared. The remote control device 20 may be a trackball type remote control, a conventional remote control, a keyboard type remote control, or the like.

* * *

Accordingly, the television controller 32, in response to appropriate signals from the remote control device 20, may control the audio/video switch 36, the PIP module 38, the video processor 40, the audio processor 42, and the raster control 44 so that (i) internet video is displayed on the display 12 and audio supported by the internet module 34 is provided to the speakers of the web television 10.

A quick review of the referenced text, however, reveals that Gaughan does not disclose or even suggest four separate buttons to respectively select one of four PIP modes. At best, the first paragraph merely affirms the existence of remote controls, while the second paragraph suggests that Internet video may be displayed on the

display 12 in response to "appropriate control signals" from the remote control device. The specific mechanism for generating those control signals is not mentioned.

Nothing in Gaughan suggests that the control signals to initiate "the display of a full-screen browser" are in response to a "first button." Indeed, nothing in Gaughan suggests a specific button being associated with a particular PIP mode. For all that Gaughan teaches, a person of ordinary skill in the art ("POOSITA") could assume that the control signals are generated in response to navigating a menu or cycling through a plurality of different options by repeatedly pressing a button.

Similarly, with regard to the limitation of "a second button for initiating the display of a reduced-size television image over a portion of a full-screen browser image in the user interface," the Examiner cites to the identical language quoted above, *i.e.*, to the general proposition that remote controls exist (column 3, lines 54-63) and that the television controller 32 may, *in response to control signals from the remote control*, display internet video on the display 12 (column 4, lines 44-48). The Examiner also cites to line 64 of column 4 through line 2 of column 5, which is reproduced below *in toto* for the Examiner's convenience.

(vi) television video selected by the tuner 48 is displayed in a PIP area of the display 12, internet video supported by the internet module 34 is displayed in the main area of the display 12, and either internet audio or television audio is provided to the speakers of the web television 10.

The quoted text merely states that television video is displayed in the PIP area. It does not, however, disclose or suggest that this PIP mode is generated in response to a "second" button. For all that Gaughan teaches, a POOSITA could similarly assume that the control signals are generated in response to navigating a menu or cycling through a plurality of different options by repeatedly pressing a button.

Nothing in Gaughan suggests that the "appropriate control signals" for this mode are generated in response to the claimed "second" button.

The same analysis holds true for the claimed "third" and "fourth" buttons. The Examiner merely cites to the existence of a remote control and the existence of a particular video mode, but does not provide a teaching or suggestion in the reference for particular buttons being mapped to particular PIP modes.

Anticipation under § 102 is proper only if the reference shows exactly what is claimed. Titanium Metals Corp. v. Banner, 778 F.2d 775, 780 (Fed. Cir. 1985); MPEP § 2131. In this case, Gaughan does not show exactly what is claimed – four different buttons for selecting four different PIP modes. Instead, Gaughan merely affirms the existence of remote controls and PIP modes. As a result, the applicant respectfully submits that the § 102 rejection is improper and should be withdrawn.

§ 103 Rejections

Gaughan/Sweester

Claims 10, 13, 19, 20 and 31 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Gaughan in view of Sweester. This rejection is respectfully traversed.

Claim 10 has been amended to clarify that the first image is removed in response to the "value of B being reduced substantially to zero." Support for this amendment may be found at page 14 of the Specification.

The Examiner concedes that Gaughan does not disclose that the "size of the first image of the first type is defined by a variable b with an initial value b1 and

decreasing the value of b from b1 to b2 to reduce the size of the first image." Office Action at page 5. However, the Examiner takes Official Notice of variables being used to represent data, such as sizes. The applicant respectfully traverses the Official Notice to the extent that Examiner is arguing that the behavior of the user interface, as defined by the variables b, b1, and b2, is taught or suggested by the prior art of record. Merely using variables to represent data is old. However, a user interface that behaves in a particular way based on particular variables may be both novel and non-obvious. For example, the claimed reduction and enlargement of the PIP window, together with the removal of the PIP window in response to the value of "b" being "reduced substantially to zero" is not taught or suggested by the cited references.

The Examiner also concedes that Gaughan does not teach that the "first and second length-to-width ratios are the same." Office Action at page 5. The applicant respectfully traverses this Official Notice and respectfully requests that the Examiner provide a reference in which a PIP window is sized according to the dimensions of the "first video image," and is not merely of a fixed size (e.g., 4:3), as in conventional approaches. For example, the applicant is not aware of a 16:9 PIP window, as recited in claim 20, prior to the claimed invention. For this reason, the Official Notices of these PIP aspect ratios are also respectfully traversed.

The Examiner further concedes that Gaughan does not disclose "performing a function [presumably removing the first image] in response to a set number of initiations of the first instruction." Office Action at page 5. To allegedly meet this limitation, the Examiner cites to Sweetser. However, Sweetser merely discloses

cycling through a plurality of disparate display modes (*i.e.*, time, starting allowance, remaining allowance, blocked times, total hours, average hours per day) through repeated initiations of an instruction. This is not at all analogous to removing the first image in response to the value of "b" being reduced substantially to zero, as claimed.

Claim 10 has been further amended to recite

reinitiating the first instruction with the input mechanism;

decreasing the value of b from b2 to b3 in response to the first instruction; and

reducing the first image with the second size to a third size in response to the decrease in the value of b, so that the second image is partially displayed on the display area, the first image with the third size having a third length-to-width ratio that is the same as the first and second length-to-width ratios;

Thus, claim 10 recites not merely switching from a non-PIP mode to a PIP mode (as suggested by the Examiner at page 5 of the Office Action), but the process of successive reduction (or enlargement), which ultimately results in the first image being removed when the value of "b" is reduced substantially to zero.

Gaughan, by contrast, merely discloses a conventional PIP technique for displaying Internet video and television video. Like a PIP feature in standard television sets, the user is limited to turning the PIP function on and off and swapping between what is shown in the smaller PIP window and the main window, *i.e.*, either the Internet video or the television video.

The addition of Canfield does not cure the deficiencies of Gaughan. As the Examiner correctly points out, Canfield discloses zooming a PIP window. However, Canfield does not disclose or suggest removing the PIP window when the value of "b"

is reduced substantially to zero. In fact, Canfield actually *teaches against* this interpretation:

If the user directs the control micro to change the inset picture size, the control micro 1) directs the PIP unit to reinitialize the memory, 2) changes the parameters relating to the inset picture compression ratio and cropping, and 3) recalculates read address from current HC, VC, and the new inset picture size information. This process keeps the center of the new inset picture positioned over the same point on the big picture.

Col. 3, line 65 to col. 4, line 5 (emphasis added). Thus, during zooming, there will always be a "new inset picture" positioned over the same point in the new window. At no time does Canfield suggest that there will be no new inset picture as a result of zooming. Indeed, Canfield refers to "80 ... different sizes of inset pictures" (col. 4, line 44), but never once refers to using the zooming controls to remove an inset picture entirely. Presumably, to remove the picture in Canfield, a separate PIP on/off command would be required, as in Gaughan, which is also contrary to the claimed invention. **None of the prior art references, alone or in combination, disclose removal of a PIP window using only zooming controls.** Thus, the cited references require one or more additional steps than the claimed invention to perform the same function, making the process of switching between modes more cumbersome, as well as more difficult to perform in the dark.

In view of the foregoing, claim 10 is believed to be patentably distinct over the art of record. Claims 13-20 depend directly or indirectly from claim 10 and are likewise believed to be patentably distinct for at least the same reasons.

As amended, claim 31 recites a system comprising:

a client terminal; and

a remote control device for the client terminal, the remote control device comprising a single button for changing the relative sizes of a browser image and a television image displayed in a user interface of the client terminal and for cycling between a plurality of picture-in-picture ("PIP") modes in the user interface, the PIP modes comprising:

a full-screen browser image;

a reduced-size television image over a portion of a full-screen browser image;

a reduced-size browser image over a portion of a full-screen television image; and

a full-screen television image.

The Examiner concedes that Gaughan "fails to disclose a single button for cycling between a plurality of display modes." Office Action at page 8. However, the applicant respectfully submits that the claim amendments clearly distinguish not only Gaughan, but also Sweetser, which was cited by the Examiner to allegedly cure the deficiencies of Gaughan.

Initially, Gaughan does not disclose a single button for switching between PIP modes, let alone the four claimed PIP modes. As explained above, Gaughan generally refers to the existence of remote controls and the existence of certain display modes. He does not disclose that either one button or four separate buttons are used to generate his "appropriate control signals."

Moreover, Gaughan does not disclose or suggest employing the same button used for switching between modes to additionally change the relative sizes of the

browser image and television image. Gaughan can merely turn a PIP function on and off, as well as swap the PIP window and the main window.

Canfield would not cure the deficiencies of Gaughan. Canfield merely discloses the zooming of a PIP window using "ZOOM-IN" and "ZOOM-OUT" commands. Canfield does not, however, disclose or suggest that the same command used for zooming could also be used for switching between PIP modes (full-screen browser, reduced-size TV over full-screen browser, reduced-size browser over full-screen TV, and full-screen TV). A person of ordinary skill in the art ("POOSITA") would normally regard a "ZOOM-IN" or "ZOOM-OUT" button or command to do simply that, *i.e.*, zoom the picture "in" or "out," respectively. The POOSITA would be surprised if, instead of consistently zooming the picture out, pressing a "ZOOM-OUT" button switched between PIP modes. This surprise makes the combination implausible without hindsight reconstruction based on the applicant's own teachings.

The addition of Sweetser would likewise not cure the deficiencies of Gaughan and Canfield. Sweetser merely states that a single button can be used to switch between "display modes" (as opposed to "PIP modes"). The "display modes" discussed by Sweetser (*i.e.*, time, starting allowance, remaining allowance, blocked times, total hours, average hours per day), could not be more different from the "PIP modes" recited in amended claim 31. Displaying the time or a child's starting allowance of hours has nothing to do with PIP modes.

Moreover, Sweester's device is so different in function and structure from the claimed invention that a POOSITA would not even be motivated to look to the

reference for its supposed teachings. For example, Sweester does not disclose that the cycle button is on a "remote control" for a client terminal, as claimed. Sweester's "video control device" is a separate box attached to a TV to allow a parent to meter television watching by a child. However, it does not "control" any functions of the TV, as would be understood to a POOSITA by the term "remote control," but merely disconnects access to an RF signal if a child has exceeded his allocated hours of viewing. Even if Sweester's system could be deemed a "remote control," the display modes are shown on a separate screen on Sweester's external device, not on a user interface for client terminal, as claimed. When considering Sweester, a POOSITA is left with a non-PIP mode button on a non-remote control device that does not display anything on the client terminal's user interface.

Even with the teaching of Sweester, the POOSITA would be hard pressed to combine the idea of PIP mode switching using a single remote control button with the idea of changing the relative sizes of the TV and browser images (which is conceptually different from "modes") using the same button, at least without hindsight reconstruction based on the applicant's own teachings.

Gaughan/Canfield/Sweester

Claims 1-6, 8, 9, 14-18 and 22-26 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Gaughan in view of Canfield and Sweester. This rejection is respectfully traversed.

Claim 1 has been amended to clarify that the first image is progressively reduced in size until it is removed from the display area after the size of the first image is less than a particular threshold (not in response to a set number of

initiations). Thus, a single button can be used to both change the relative sizes of two images, as well as switch from one mode to another (e.g., browser with TV inset to full-screen browser). Support for this amendment may be found at page 14 of the specification.

As noted above, Gaughan merely recites a static PIP window that can be turned on or off. Gaughan does not disclose or suggest enlargement or reduction of a PIP window. Canfield, however, does not cure the deficiencies of Gaughan.

As discussed above, Canfield teaches away from the claimed limitation removing the first image on the screen once the image reaches a particular size threshold (e.g., when the value of b is substantially reduced to zero). According to Canfield, during zooming, there will always be a "new inset picture" positioned over the same point in the new window. At no time does Canfield suggest that there will be no new inset picture as a result of zooming. Col. 3, line 65 to col. 4, line 5. Indeed, Canfield refers to "80 ... different sizes of inset pictures" (col. 4, line 44), but never once refers to using the zooming controls to remove an inset picture entirely.

Sweester does not cure the deficiencies of Gaughan and Canfield. If the removal of the first image is what the Examiner is analogizing to one of Sweester's "display modes," the applicant respectfully points out that it is the progressive reduction of the image (rather than a set number of initiations as in Sweester) that causes the image to be removed. Size reductions/enlargements would not normally be referred to as "modes" within any reasonable interpretation of the term.

Sweester does not reduce (or enlarge) the size of anything before removing it (changing modes). Sweester merely switches between disparate informational

modes (*i.e.*, time, starting allowance, remaining allowance, blocked times, total hours, average hours per day). Moreover, as argued above, Sweester relates to a non-PIP mode button on a non-remote control device that does not even display the modes in a user interface for the client terminal, as claimed.

The concept of using one button to progressively reduce the size of a PIP image until the image is removed, resulting in a change in PIP modes (*e.g.*, browser with TV inset to full-screen browser), is simply not taught or suggested by the prior art of record. None of the references show progressive reduction/enlargement of a PIP window in order to remove the PIP window. This limitation is completely absent in the prior art of record.

Accordingly, claim 1 is believed to be patentably distinct. Claims 2-5 depend directly or indirectly from claim 10 and are likewise believed to be patentably distinct for at least the same reasons.

Claim 6 has been amended to clarify that the first image is progressively enlarged in size until only the first image remains in response to the first image becoming as large as the second image (not in response to a set number of initiations). Thus, a single button can be used to both change the relative sizes of two images, as well as switch from one PIP mode to another (*e.g.*, TV with browser inset to full-screen TV). Support for this amendment may be found at pages 13 and 14 of the specification.

As noted above, Gaughan merely recites a static PIP window that can be turned on or off. Gaughan does not disclose or suggest enlargement or reduction of a PIP window. Canfield, however, does not cure the deficiencies of Gaughan.

As discussed above, Canfield teaches away from removing the PIP window through zooming. If the PIP window could be enlarged to completely overlay the background window, this would not "keep the center of the new Inset picture positioned over the same point on the big picture," as required by Canfield. Indeed, there would be "no big picture" on the screen, and the PIP window would no longer be an "inset picture" because there would be nothing to be inset from.

Sweester does not cure the deficiencies of Gaughan and Canfield. If the full-screen enlargement of the first image is what the Examiner is analogizing to one of Sweester's "display modes," the applicant respectfully points out that it is the progressive enlargement of the image (rather than a set number of initiations) that causes the image to be enlarged to fill the screen. These enlargements would not normally be referred to as "modes" within any reasonable interpretation of the term.

Sweester does not enlarge the size of anything before causing it to fill the whole screen (changing PIP modes). Sweester merely switches between disparate informational modes (*i.e.*, time, starting allowance, remaining allowance, blocked times, total hours, average hours per day). Moreover, as argued above, Sweester relates to a non-PIP mode button on a non-remote control device that does not even display the modes in a user interface for the client terminal, as claimed.

The concept of using one button to progressively enlarge the size of a PIP image until the image fills the entire screen resulting in a change in PIP mode is simply not taught or suggested by the prior art of record. None of the references show progressive enlargement/reduction of the PIP window in order to switch between PIP modes. This limitation is completely absent in the prior art of record.

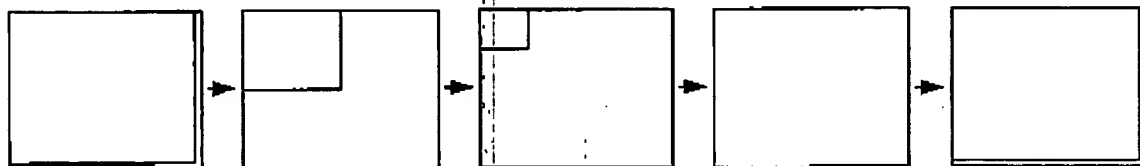
Accordingly, claim 6 is believed to be patentably distinct. Claims 8 and 9 depend directly or indirectly from claim 10 and are likewise believed to be patentably distinct for at least the same reasons.

Claim 22 has been amended to recite:

restoring the first image to substantially fill the display area in a closed-loop display cycle in response to initiating the first instruction by the remote control after the first image has been removed.

In other words, once the first image has been progressively reduced until it is removed from the screen, a further initiation of the first instruction will cause the first image to be restored to substantially fill the full screen. Support for this amendment is found at page 12 of the specification.

An illustration of the sequence of steps recited in claims 1 and 22 is shown below.



Claim 22

As noted above, Gaughan merely recites a static PIP window that can be turned on or off. Gaughan does not disclose or suggest enlargement or reduction of a PIP window. Canfield, however, does not cure the deficiencies of Gaughan.

Indeed, Canfield actually teaches away from the claimed invention. A person of ordinary skill in the art ("POOSITA") would normally regard a "ZOOM-IN" or "ZOOM-OUT" button or command to do simply that, *i.e.*, zoom the picture "in" or "out," respectively. The POOSITA would be surprised if, instead of consistently zooming in the first image, pressing a "ZOOM-IN" button would actually cause a

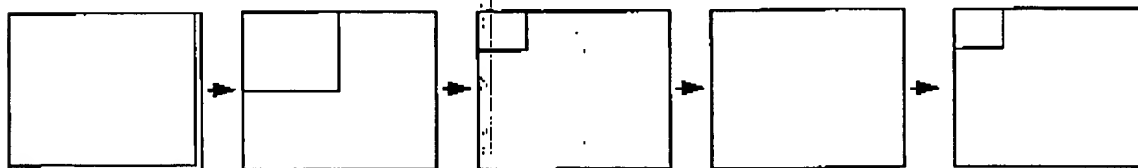
substantially full-screen version of the first image to be displayed, as shown above. This would be directly contrary to the usual interpretation of a "ZOOM-IN" button or command.

Sweetser is inapposite to this situation because it merely teaches a series of modes that do not indicate any particular direction of movement, enlargement, etc. For example, assuming Sweester's modes (i.e., time, starting allowance, remaining allowance, blocked times, total hours, average hours per day), suppose that the "average hours per day" mode is being displayed when the user presses the select button. The user would not be surprised that the system cycles back to "time." Because there is no expected progression ("ZOOM-IN" or "ZOOM-OUT"), the user's expectations are different with Sweester than with Canfield or the claimed invention.

As amended, claim 23 recites:

progressively enlarging the length and width of the first image while preserving its length-to-width ratio in a closed-loop display cycle in response to initiating the first instruction by the remote control after the first image has been removed.

In other words, once the first image has been progressive reduced until it is removed from the screen, a further initiation of the first instruction causes the first image to be progressively enlarged, as illustrated below. Support for this amendment is found at page 12 of the specification.



Claim 23

Although this embodiment is completely different from the one recited in claim 22, it is being rejected on the basis of the same language from the same references. Claims 22 and 23 illustrate two different closed-loop display cycles, neither of which are taught or suggested by the prior art. What is being claimed is not the mere existence of closed-loop display cycles, but the specific closed-loop display cycle in which a PIP image is progressively reduced or enlarged and then either immediately restored (claim 22) or progressively restored (claim 23). The applicant respectfully submits that the cited combination of references is insufficient to teach either of these concepts, let alone both of them.

Moreover, as discussed above, Canfield actually *teaches away* from a closed-loop display cycle. A user would not expect that repeatedly pressing a "ZOOM IN" button would begin reducing the size of the PIP window, only to have it begin to be enlarged in a closed-loop display cycle. The "ZOOM IN" button would be providing both enlargement and reduction functionality, contrary to the ordinary meaning of "zoom in."

Likewise, no one would expect that repeated pressing of the "ZOOM OUT" button would begin to enlarge the size of the PIP window, only to have it begin to be reduced. The claimed closed-loop display cycle is completely contrary to a button that ostensibly will continue to reduce the PIP window to a particular point along the spectrum of 80 different sizes disclosed by Canfield. See col. 4, line 44.

New Claims 32 and 33

New claim 32 recites that the plurality of subsequent initiations of the first instruction are in response to holding down a button on the remote control. Put another way, the user may progressively reduce or enlarge the image by keeping the button pressed rather than successively pressing the button. See specification at page 12. The applicant respectfully submits that none of the cited references disclose or suggest this feature. At best, references such as Canfield suggest repeated execution of a ZOOM-IN or ZOOM-OUT command, which would normally require multiple button presses.

New claim 33 recites that each progressively-reduced image is flush with a particular corner of the display area. Support for this amendment may be found, for example, at page 12 of the specification and in Figure 19. The applicant respectfully submits that none of the cited references discloses or suggests this feature. In particular, Canfield's figures are apparently reduced/enlarged near the center of the display area (see Figs. 3, 3a, 4, and 4a). Nothing in Canfield suggests that each progressively-reduced image must be flush with the same corner of the display. Indeed, Canfield teaches against this interpretation by emphasizing that his "process keeps the center of the new inset picture positioned over the same point on the big picture." Column 4, line 5 (emphasis added). If the center of the new picture is always positioned over the same point of the big picture, then the reduced image cannot remain flush with a corner of the display area. Instead, the center of the new picture must move with each reduction.

Conclusion

In view of the foregoing, the applicant respectfully submits that all claims are believed to be in condition for allowance. A Notice of Allowance is respectfully requested.

If any issues remain after this response, the Examiner is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,

Digeo, Inc.

By


Kory D. Christensen
Registration No. 43,548

STOEL RIVES LLP
One Utah Center Suite 1100
201 S Main Street
Salt Lake City, UT 84111-4904
Telephone: (801) 328-3131
Facsimile: (801) 578-6999

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